AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled).
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)

13. (New) A method of manufacturing an optical attenuator from optical fiberscomprising:

placing end regions of two optical fibers with a lateral or transverse offset and with end surfaces thereof essentially against each other;

heating the end regions to make the end surfaces melt to each other;

stopping the heating when an optical loss exceeding a desired optical loss by a value is obtained, the value depending on said optical loss at which the heating is stopped, the value being calculated from a linear function including two constants derived from measurements of the loss for this splice or for a splice between identical fibers having the same initial offset; and

making said measurements by temporarily interrupting the heating during at least two time periods before the heating is stopped and by measuring the loss at the beginning of and at the end of the at least two time periods.

14. (New) The method of claim 13, wherein each of the at least two time periods is selected to have a length for permitting the loss at the end of the respective time period to reach a constant value.

15. (New) The method of claim 13, wherein a first of the at least two time periods is selected to start when the loss has decreased to a value exceeding the desired loss by 70 - 80 %.

16. (New) The method of claim 13, wherein a first of the at least two time periods is selected to start when the loss has decreased to a value exceeding the desired loss by substantially 70 %.

17. (New) The method of claim 13, wherein a second of the at least two time periods is selected to start at a time derived from the measurements of loss at the beginning of and at the end of a first of the at least two time periods.

18. (New) The method of claim 17, wherein from the measurements of loss at the beginning of and at the end of the first of the at least two time periods, the loss difference ΔL_1 is calculated, and starting the second of the at least two time periods when the loss in the splice has decreased to a value exceeding the desired loss by approximately twice said calculated loss difference.

19. (New) A device for manufacturing an optical attenuator having a desired optical loss from optical fibers comprising:

retainer and alignment units for retaining and moving two end regions of two respective optical fibers;

a heater for heating end surfaces of the two fibers in the respective end regions;

a loss detector for measuring optical loss for light propagating from one of the end regions to the other end region; and

a controller connected to the retainer and alignment units, to the heater, and the loss detector, the controller arranged

to control the retainer and alignment units to place the end regions with a lateral or transverse offset and with the end surfaces thereof essentially against each other, and thereafter

to control a heating process performed by the heater wherein, after the end regions of the fibers at the end surfaces have melted to each other, the controller stops heating by the heater when an optical loss exceeding a desired optical loss by a value is obtained, the value depending on said optical loss at which the heating is stopped, the value being calculated by the controller from a linear function including two constants derived from measurements of the loss for this splice or for a splice between identical fibers having the same initial offset, and wherein the controller makes said measurements by temporarily interrupting the heating during at least two time periods before the heating is stopped and by measuring the loss at the beginning of and at the end of the at least two time periods.

20. (New) The device of claim 19, wherein the controller is arranged to select each of the at least two time periods to have a length that permits the loss at the end of the respective time period to reach a constant value.

21. (New) The device of claim 19, wherein the controller is arranged to select a first of the at least two time periods to start when the loss has decreased to a value exceeding the desired loss by 70- 80 %.

22. (New) The device of claim 19, wherein the controller is arranged to select a first of the at least two time periods to start when the loss has decreased to a value exceeding the desired loss by substantially 70 %.

23. (New) The device of claim 19, wherein the controller is arranged to select a second of the at least two time periods to start at a time derived from the measurements of loss at the beginning of and at the end of a first of the at least two time periods.

24. (New) The device of claim 23, wherein the controller is arranged to calculate, from the measurements of loss at the beginning of and at the end of the first of the at least two time periods, a loss difference ΔL_1, and to start the second of the at least two time periods when the loss in the splice has decreased to a value exceeding the desired loss by approximately twice said calculated loss difference.

25. (New) The device of claim 19,

wherein the controller comprises:

a constant calculation unit for calculating constants of a linear function; and

a value calculation unit connected to the loss detector and the constant calculation unit to calculate a value of the linear function for a measured loss; and

wherein the controller is arranged to control the heater to stop the heating when the optical loss measured by the loss detector exceeds the desired loss by the value, the value being calculated by the value calculation unit for said measured optical loss;

wherein the controller, for determining the constants of the linear function, is arranged

to control the heater to temporarily interrupt the continued heating, for said optical fibers or for identical optical fibers having the same initial offset, during the at least two time periods before the heating is finally stopped,

to control the loss detector to measure the loss at the beginning of and at the end of the at least two time periods, and

to control the constant calculation constant to calculate the constants from the measured losses at the beginning of and at the end of the at least two time periods.